

# EC-6

## HIGH BUILD SELF-LEVELING EPOXY COATING

### Technical Data Sheet

**DESCRIPTION:**

A 100% solids, three component, self-leveling epoxy floor resurfacing material. It consists of a Resin and Hardener liquid components and a bag of specially blended aggregate.

**USES:**

Designed for resurfacing worn and eroded concrete floor areas in numerous industrial applications. Can also be used to protect new concrete from physical and chemical abuse. Mixed and applied on the job site at a thickness of 1/16" to 1/8" (62.5-125 mils). Formulated to repair and restore concrete floor areas that have experienced the harsh effects of abrasive traffic and chemical spillages.

**ADVANTAGES:**

- Pre-proportioned batches for error-free mixing.
- Quick and easy application
- Heavy build in one pass
- Resists heavy wheeled traffic
- Excellent resistance to a broad range of chemical spillages
- Good UV light resistance
- Wide range of colors with Epoxy Color Additive
- USDA Approved

**PACKAGING:**

EC-6 COATING is packaged in pre-proportioned kits for error-free jobsite mixing and application. Each kit consists of 1 five gallon pail, short filled, of Part "R" Resin, 1 one gallon container of Part "H" Hardener and 1 bag of Part "C" Aggregate. The two liquid components are pre-measured when packaged. Also, EC-6 is available in 15-gallon and 165-gallon bulk units.

**COVERAGE:**

Each single batch will cover 32 sq. ft. at 1/8 inch or 65 sq. ft. at 1/16 inch.

**ASSOCIATED PRODUCTS:**

Preparation: PC-40 DYNOMITE  
 PC-41 SOLV-KWIK  
 PC-42 ACID CONDITIONER

Priming: PR-14 WB KWIK PRIME  
 PR-7 FLEX PRIME

**GENERAL PRODUCT DATA:**

Colors: A variety of colors available with use of Epoxy Color Additive

Coverage: 65 sq. ft. per unit @ nominal 1/8 inch.

Thickness: Typically 1/16" - 1/8"

Mixing Method: Low speed with "jiffy" mixer

Application Method: Spread with notched applicator, or gauge rake, then level with spiked roller.

Pot Life: 30 minutes @ 75°F.

Thinner: NOT RECOMMENDED

Shelf Life: 2 years in unopened containers.

Cure Rate: 7-8 hrs. - Initial Set  
 12 hrs. - Foot traffic  
 18 hrs. - Light loads  
 72 hrs. - Heavy loads or chemical resistance

Recoat Time: 12-24 hrs  
 After 24 hrs. screen

**TYPICAL PHYSICAL PROPERTIES:**

Type Test	Test Method	Typical Value
Compressive Strength	ASTM C-597	9,000 psi
Tensile Strength	ASTM C-307	1,800 psi
Flexural Strength	ASTM D-790	4,000 psi
Flexural Modules of Elasticity	ASTM D-790	2.01 x 106 psi
Hardness Shore D Durometer:	ASTM D-2240	80-85
Bond Strength:	ACI 503R-5, 503R-25, A.1	400+ psi (100% concrete failure)
Abrasion Resistance Taber Abraser: (CS-17 wheel, 1000 gm load, 1000 cycles)	ASTM D-1044	30-40 mg. max. loss
Water Absorption:	ASTM C-413	0.24%
Heat Resistance:		150°F Continual Exposure 200°F Intermittent Passes
Slip Rating:	Equivalent to ASTM D-2047	

Above typical values based on 7 days cure @ 75°F

### LIMITATIONS:

This product is not designed for exterior use, immersion, or any use where moisture can reach the underside of the coating.

Technical Data Sheets are updated periodically. To ensure the most current version is being used, visit Technical Resources on [www.valsparflooring.com](http://www.valsparflooring.com).

Proper material application is the responsibility of the user. Site visits made by Valspar personnel are for making technical recommendations only and not for supervising or providing quality control.

Do not apply to concrete floors less than 60 days old.

Do not apply to floors previously treated with curing and parting compounds or other coatings unless they have been completely removed by chemical or mechanical means.

Do not use on vinyl, asphalt, rubber, glazed tile, paving brick, quarry tile, Mexican tile, or similar materials.

Do not apply if the floor or air temperature is below 60°F or over 90°F or if the relative humidity is above 85%.

Do not apply over honeycombed or structurally unsound surfaces.

Before applying for protection against specific chemical environments, consult Chemical Resistance Guide or Valspar Technical Service.

Sealed surfaces may discolor under tires due to tire plasticizer migration.

If the product is to be applied in or near areas containing foodstuffs, they should be removed before the application and until the coating has fully cured and all vapors have dissipated.

Do not thin this product. Addition of thinners will slow down the cure and reduce the ultimate properties of this product. Critical recoat times will also be affected.

As with all high performance coatings, the cured product may become slippery when wet or if exposed to oily conditions. For a procedure for incorporating aggregate to obtain a non-slip finish, contact Valspar Technical Service.

If there is any question as to whether or not the product will adhere to an existing coating, a test patch should be applied and evaluated for compatibility and adhesion.

This product is not intended to be sprayed.

This product has a limited pot life. Product should not be applied by dipping roller into kit container, but by pouring a bead of product in the form of a ribbon on the surface to be coated.

**NOTE:** This product must be used with the Epoxy Color Additive, and is not recommended for use as a clear only.

### PRELIMINARY FLOOR INSPECTIONS:

In general, the area to be surfaced must be clean, sound, dry and above 60°F to assure a successful installation. Concrete must be at least 60 days old.

If there is uncertainty as to whether or not a curing compound or any coating is present on the floor, the following two tests may be performed in order to find out:

1. Pour a cup of water on three or four areas of the floor. If the water puddles out, then there probably is no curing compound or any coating on the floor, and the preparation process may begin. However, if the water beads up like on a waxed car, this may indicate the presence of a curing compound or any coating which must be removed by chemical or mechanical means.
2. Place a drop of PC-42 ACID CONDITIONER on the floor. If the acid bubbles, a curing compound or any coating is not present.

Always be alert to any possible airborne or surface contaminants, which may contribute to problems such as fisheyes, crawling, cratering, etc.

The concrete floor should be examined for the presence of moisture. This can be accomplished by the following means:

1. Calcium Chloride Test
2. Delmhorst Moisture Meter
3. Polyethylene Sheet Method

Calcium Chloride Test: This test method works by a change in weight of moisture absorbing anhydrous calcium chloride and indicates the amount of moisture transmitting out of a large concrete surface area. Pounds is the equivalent weight of the water that is emitted from a 1,000 square foot concrete slab surface area in a 24 hour period of time (standard test duration is 60 hours). Concrete must not show moisture content greater than three pounds per 1,000 square feet in 24 hour time frame. Follow instructions as outlined by the supplier of the test kits. Make sure the concrete surface to be tested is completely clean of any residue and any debris. All seals, including curing compounds must be removed prior to performing tests. Sources: Roofing Equipment Inc., Denver, CO 303-371-7667; Sealflex Industries Inc., Costa Mesa, CA 714-708-0850; Vinyl Plastics Inc., Sheboygan, WI 920-458-4664; and Floor Seal Technology, San Jose, CA 408-436-8181

### **SURFACE PREPARATION:**

All oil, grease, wax, laitance, curing compounds, water soluble concrete hardeners and other surface contaminants must first be removed. PC-43 WASH OFF REMOVER or PC-46 DRY EZE should be used for removal of sealers, finishes and paints. Inspect the concrete and remove loose or soft concrete by scarifying, sand blasting or high pressure water blasting

### **STANDARD TESTS:**

Refer to the standard test methods below for further information.

ASTM D 4258-83	Standard Practice for Surface Cleaning Concrete for Coating
ASTM D 4259-83	Standard Practice for Abrading Concrete
ASTM D 4260-83	Standard Practice for Acid Etching Concrete
ASTM D 4262-83	Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces

### **CHEMICAL PREPARATION:**

PC-40 DYNOMITE should be used as directed to remove all traces of grease, oil, and dirt followed by a thorough rinsing to remove all cleaning residues. Remove excess water with a good wet vacuum. To remove laitance and to give a slight texture to area to be surfaced, acid-etch using PC-42 ACID CONDITIONER. Using a 1:1 dilution ratio with water, apply evenly as possible to the surface and vigorously scrub into the surface with a stiff bristle brush or automatic scrubber. Thoroughly rinse with copious quantities of water and use wet vacuum to remove any residues. Repeat this process until concrete surface is the texture of a medium grit sandpaper.

### **MECHANICAL PREPARATION:**

Mechanically abrade the concrete by grinding, scarification or "shot-blasting" the surface to the texture of a medium grade sandpaper. Next, sweep and vacuum any remaining dirt and dust with a wet/dry vacuum. Removing residual dust will help ensure a tenacious bond from the primer.

Whenever "shot-blasting" is utilized, be careful to leave concrete with a uniform texture. Over "blasting" will result in reduced coverage rates of the primer and/or subsequent top coats. It is also possible that the texture of the "shot-blast" pattern may show through the last coat. This is known as "tracking".

**NOTE:** Although, chemical preparation may be required on some surfaces, mechanical preparation is highly recommended and in most cases more efficient. It is not uncommon that a combination of the two is required.

### **PRIMING:**

**PR-14 WB KWIK PRIME** should be applied at 400-500 sq. ft. per gallon over a damp or dry floor. For rough areas or floors that have been "shot-blasted", coverage will be reduced to 300-400 sq. ft. per gallon. A second coat may be required to satisfy substrate porosity. Allow to dry thoroughly (varies with temperature and humidity) until tack free and clear in appearance before coating.

**PR-7 Flex Prime** may also be used to prime the surface. It should be applied at a rate of 275-300 sq. ft. per gallon, over damp or dry concrete. Rough concrete surfaces will result in reduced coverage.

### **MIXING:**

It is important to remember that this coating has a limited pot life. Therefore it is wise to check and make sure everything is in order before starting the mixing sequence.

Color Additives: This system must be used with the Epoxy Color Additive. The appropriate Epoxy Color Additive is added to the Part "R" Resin at the specified rate. *Refer to the Epoxy Color Add chart for specific ratios.* Mix at low speed for a minimum of two minutes.

1. The Part "R" Resin must be thoroughly mixed prior to the addition of Part "H".
2. Carefully empty the contents of the Part "H" Hardener entirely into the can of Part "R" Resin. The Part "R" container is oversized to allow for easy mixing.
3. Mix with a very low speed jiffy mixer, until completely blended. This will take about 3 to 5 minutes. Be careful not to introduce any air bubbles while mixing.
4. The Part "C" Aggregate is then added to the mixed liquid components and mixed for an additional 3 minutes.
5. Due to the difference in viscosity between the Part "H" Hardener and Part "R" Resin, care must be taken to ensure that both components are thoroughly mixed in order to avoid weak or partially cured spots in the coating.
6. Since this product does not need any induction time, it should be used immediately after mixing.

**APPLICATION:**

This product should be applied by first pouring a bead of material in the form of a ribbon on the surface to be coated. The material should not be left in the container long because it will set faster thus reducing the pot life.

1. Pour properly mixed material onto a controlled area of prepared floor. Spread uniformly with gauge rake, notched trowel or squeegee.
2. Allow material to self-level and use porcupine roller to remove excess bubbles.
3. Pour another batch of mixed material onto floor next to previous material and work together in same manner. Continue to completion.
4. To ensure strong, bonded borders, do not feather the materials. In larger areas the mixed product should be worked into a chase, which is a special groove cut into the concrete floor during the preparation process. Also, terrazzo strips and other similar type control strips can be employed.

**POT LIFE:**

Approximately 30 minutes at 75°F. This is based on not leaving the mixed materials in the mixing pail any longer than absolutely necessary.

**CURE TIMES:**

At a cure temperature of 75°F, allow 7-8 hours for initial set, 12 hours for foot traffic, 18 hours for light loads. For heavy fork lift traffic and chemical spillages, allow 72 hours.

**CLEAN-UP:**

Equipment should be cleaned immediately after use with soap and water or UR-9 MCU THINNER.

**CRITICAL RECOAT TIME:**

It is important to apply subsequent coats of this and other products within 12 to 24 hours (under normal curing conditions). If this coating is allowed to cure longer than the 24 hours before subsequent recoats, screening will be necessary. The floor surface should be screened to the effect that a uniform dullness is achieved. There should be no gloss present on the floor before applying the next coat.

**TROUBLE SHOOTING:**

<b>PROBLEM OBSERVED</b>	<b>POSSIBLE CAUSES</b>
Fisheyes	Oil Contamination; Improper substrate cleaning; Mold Release Agents; Improper Mixing.
Peeling From Substrate	Insufficient preparation process; Oil impregnation; Moisture in concrete.
Peeling Between Coats	Past critical recoat time; Contamination between coats.
Coating Soft, Dulling	Improper mixing; Use of thinner in product; Extreme weather conditions.
Slow Cure	Low floor and ambient temperatures; Use of thinner in product; Improper mixing; Product applied too thin.
Fast Cure	High floor and ambient temperatures.
Bubbling	High temperatures; No primer used; Working product past pot life; Improper mixing overworked the product.

**REFER TO MATERIAL SAFETY DATA SHEET FOR FURTHER SAFETY AND HANDLING INFORMATION.**

**See individual labels for more caution statements.  
KEEP OUT OF THE REACH OF CHILDREN.**

**DISPOSAL:**

Dispose in accordance with federal, state, and local regulations. Use licensed hazardous waste company.

Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned.

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